

## **Perceptions of Tobacco Policies from National Social Fraternities and Sororities**

Paul Zivich, Julie Bower PhD, MPH, Elizabeth Klein PhD, MPH

### **Abstract:**

Research indicates that involvement in fraternities and sororities may be associated with higher rates of social smoking and usage of tobacco products for college students. Social and other organizations play an important role in the development and reinforcement of social norms on tobacco use to young adults during a time when health risk behaviors are in transition. The present study is a cross-sectional survey of a national sample of Greek letter organizations for the presence of policies that restrict tobacco use and perceptions of these policies by organization leadership. A web-based survey was designed to assess the prevalence of tobacco-specific restrictions, benefits and barriers to adoption of such policies, and future intentions for policy adoption. A listing of social fraternities and sororities was created (n=136) from organizational websites. These organizations were identified through six different umbrella organizations. Member organizations had at least one chapter and had a social designation. In August and September 2014, survey links were emailed to each organization, with two follow-up emails.; the final sample of 21 organizations completed the survey (a 15.4% response rate.) Quantitative measures were summarized with descriptive statistics, and qualitative responses were independently coded by two reviewers for common themes. From these responses, most (95.2%) of the organizations reported that they had no policies that restricted tobacco. Of those respondents, most reported that instituting a policy would be difficult, especially on the individual chapter level

(79.0%). The biggest barrier to creation of a policy was considered the lack of enforcement capabilities (78.9%). Organizations viewed restricting tobacco as not one of their priorities (73.7%) or their responsibilities (68.4%). None of the social fraternities or sororities that responded had a policy that specifically prohibits tobacco. Results indicate the need for educating fraternity and sorority leaders, at the national level, regarding the effects of tobacco on members, and the positive influences tobacco control policies could have on the health and safety of members.

### **Background:**

Tobacco has been shown to be associated with harm to nearly every organ in the body, including the respiratory system and the cardiovascular system <sup>1</sup>. Every year cigarettes lead to 480,000 deaths in the United States (US), which is nearly one of every five deaths that occur in the US <sup>1</sup>; this includes death due to second hand smoke (SHS). The known health risks to non-users have led to societal tobacco control measures to protect the public from exposure to SHS. Indoor areas have been of particular concern in recent times, with more states creating bans on indoor smoking in public areas. This is all to reduce exposure among those who do not use tobacco.

As a result of the building evidence base for the harms of tobacco use and SHS, individual states have created policies that restrict smoking and tobacco use in public spaces. Currently there are thirty-six states that require specific public places to be 100% smoke free <sup>2</sup>. Universities in the US have also begun to restrict tobacco

use on campuses. It is estimated that there are 1,514 college campuses that are 100% smoke-free as of January 1, 2015 <sup>3</sup>. This has largely increased from the 446 organizations that were 100% smoke-free in October 2010. In a recent study among 8 universities in California, strong tobacco restricting policies were associated with lower reported exposure to secondhand smoke and observing fewer people using <sup>4</sup>. Students also smoked less overall and most supported outdoor smoking restrictions. With evidence of the effectiveness of university tobacco policies, the next natural progression in controlling tobacco use among college-aged individuals would be for national student organizations to institute tobacco policies.

Tobacco use among college students is an important issue. While tobacco rates are lower among those with higher education<sup>1</sup>, reducing the prevalence of tobacco among this group is still important to public health. According to the American College Health Association's National College Health Assessment conducted in Spring 2014, the self-reported use of cigarettes within the past 30 days was 12.7% <sup>5</sup>. The perceived use by peers is 78.3%, which is drastically different from the true rate. This presents the importance of peer influences. Most college students plan on quitting tobacco when college ends but over half do not<sup>6</sup>. Studies have found that tobacco use is higher among fraternity and sorority members <sup>7,8</sup>. Individuals who live in fraternity or sorority housing are more likely to be current smokers than those who live in campus housing <sup>9</sup>. This suggests members who live in organizational housing are a high-risk group. Organizational policies regarding housing could work to reduce the elevated risk in this group. Other studies have found that rates of tobacco use are the same or less between Greek life members

and nonmembers when adjusted for other factors <sup>10,11</sup>. Other factors included alcohol and other substance use. Further studies need to look at these rates before a consensus can be reached on the impact of Greek life in regards to tobacco use.

One student organization that has potential to influence college student tobacco use would be Greek letter organizations, better known as fraternities and sororities. Using the social ecological model, these organizations could make impacts at the relationship level. In general fellow members have a bond between each other and form a close network of peers. This interconnectedness can be summed up in the phrase used by members to describe their life-long friendships. The phrase is that your brothers/sisters will be the ones to “marry you and bury you.” With such strong peer influences, meaningful impact can be created and sustained. Fraternities and sororities have a large influence on college students’ behaviors, with about 9 million students involved in Greek life throughout the US <sup>12</sup>. With this large of an audience, tobacco restrictions among this group could lead to large impacts in college tobacco usage rates. Greek letter organizations generally fit into three categories; social, service, or academic. This research focuses on social fraternities and sororities. (Although there are some all female Greek Letter organizations that are referred to as fraternities, in this paper the word ‘sorority’ designates a female Greek Letter organization regardless of self-identified designation.)

Research among fraternities and sororities members indicates that they have higher rates of tobacco use <sup>7,8</sup>. In contrast, other research suggests that their smoking rate are similar to non-members when adjusted for other alcohol use or

other substances <sup>10</sup>. Prevalence of tobacco use among Greek life members is still important. These organizations provide a unique area for tobacco intervention. With a large member base, formal policies from these national organizations could create a sustainable impact on tobacco usage rates among young adults. While tobacco control policies instituted at these organizations would only directly affect the members, it may cause a shift in the social stigma associated with tobacco use.

Tobacco control measures are effective at reducing the use of tobacco among college students <sup>13</sup>. In a repeated cross-sectional study conducted at two matched universities in Indiana, the odds of being a current smoker was observed to significantly decrease by 32% in one of the university that instituted a smoke-free campus policy, when comparing pre- vs. post-policy adoption <sup>14</sup>. Another study assessed the impact of tobacco free policies in California. These researchers found that universities with tobacco-free policies were associated with fewer students smoking and lower intention to smoke on campus <sup>4</sup>. Recently the tobacco usage rate of college age individuals has decreased <sup>15</sup>. While this is good progress, there are still areas that need improvement.

At the time of this research, there has been no study assessing the presence of tobacco control policies or their perceptions among leaders of the organization at the national level. The purpose of the proposed study is to assess and characterize current policies and the perceptions regarding tobacco control policies among national chapters of fraternities and sororities.

## **Methods:**

### *Study sample*

The study population was identified from Greek letter umbrella organizations. These umbrella organizations are made up of fraternities or sororities with demographic similarities, such as historical designation, type of membership, or focus of organizational activities. Six umbrella organizations were identified that had membership made up of national social fraternities and sororities. One conference was open to all social fraternities, regardless of historical designations. Another conference was open to all social sororities, regardless of historical designations. The remaining four were made up of fraternities and sororities based on historical designation. These overarching historical designations were historically African American, Latino, Asian, or Multicultural. Umbrella organizations that had an academic or professional focus were excluded. Umbrella organization that had a regional focus were excluded. From these six umbrella groups' websites, 152 potential organizations were identified (see Table 1 for the number of organizations that came from each umbrella group.) Four organizations belonged to two umbrella organizations. After accounting for these organizations, the eligible sample was 148. One organization was excluded from this list for having an academic focus. Contact information was unavailable for twelve organizations. These organizations either did not have a national website, provided invalid emails on their website, had no website contact form, or had restrictions on use of their website contact form. In the end, 136 organizations remained eligible to participate in the survey. A flowchart regarding the exclusion

of organizations within the six identified umbrella organizations is available in Figure 1.

After these organizations were identified, email addresses were collected from organizational websites. Specific emails to members of either the board of directors or governing board were preferred. Only one member of the board was chosen as a contact. The preferred positions were either executive directors or assistant executive directors. If these positions were unavailable for contact, another relevant position to policies was chosen. If specific email addresses were not available then a general organizational email address was used. A website contact form was also used for organizations that did not have a general organization email available on their website.

### *Survey procedures*

To solicit participation in the study survey, three email invitations were sent to each organization requesting participation in the survey. These emails were sent to the contacts identified in the previous paragraph. Each email contained the importance of the survey topic and a link to the survey. These emails were distributed about two weeks apart, for a total contact period of six weeks during August 21 to September 16, 2014. Each email was sent on a different day of the week during normal business hours to encourage participation. Contact was lost with some organizations during distribution. The loss of contact was due to undeliverable emails after the first email was sent successfully. If at least the first

contact message was delivered successfully, the organization remained in the total sample for calculating the response rate.

A three-part survey tool was created for this research, based on previous surveys created to assess tobacco policies of hospitals<sup>16-19</sup>. The first part of the survey identified basic demographics of each organization. This included the respondent's familiarity with their organization's policies, whether the organization is a fraternity or sorority, if the organization has any historical designations, the number of chapters in the United States, and if a tobacco policy existed. The organizations were also asked what organization they were responding on behalf of. This information will not be disclosed. The purpose of this question was to ensure there were no duplicate responses.

The second part of the survey was targeted at organizations that had a policy that restricted tobacco. It assessed what products were restricted, at what locations the policy applied, the year of adoption, and the reason for adoption. In addition the level of support of the policy at various levels, the difficulty of implementing the policy, and the priorities of the organization were examined. The researchers also requested the written version policy of the policy.

In the third part of the survey, organizations without a tobacco policy were asked if there were any plans for development of a policy and what tobacco-related items would be considered for restrictions. The level difficulty of instituting a ban and perceived barriers were asked. The level of difficulty was assessed at three levels of the organization; national level, divisional level, and individual chapter level. The benefits of creating a policy and organizational values were assessed as



well. Organizational values were assessed by ranking six different values by order of importance. Finally a qualitative question was used for respondents to input what would be needed for an organization to adopt a tobacco control policy.

### *Data analysis*

For basic descriptive characteristics of the chapter size, median and interquartile range were used since there was no evidence of normality. A histogram generated from the chapter size data produced a right skewed shape. Chi squared tests were utilized to see if there was a difference in the demographics of respondents and non-respondents. Frequency tables or bar charts were generated for all categorical variables. For interpretation of difficulty of implementing a policy at the various organizational levels, values of 1-2 were considered easy and values of 6-7 were considered difficult. All calculations were completed through Microsoft Excel and SAS (version 9.3; Cary, North Carolina).

Organizations were also asked what would be needed to adopt a tobacco-free policy. For this qualitative element of the survey, two student coders independently reviewed and analyzed the themes of responses. The process used to assess the qualitative responses was a thematic analysis approach <sup>20</sup>. The themes were divided into seven categories. These categories were created based on the language used in the responses. Following their independent review, both reviewers met to compare their interpreted themes and reached a consensus on the correct interpretation. The kappa statistic calculated was 0.797 with a 95% confidence

interval of 0.546 to 1. This is evidence of a good level of agreement between the reviewers.

The protocol for the proposed survey was approved by the Institutional Review Board at The Ohio State University.

## **Results:**

Of the 136 potential respondents, there were a total of 21 responses to the survey, yielding an overall response rate of 15.4%. One response in the no policy category was partially complete. This response was only included in demographic assessment and policy counts. Twenty of the twenty-one organizations reported having no policies regarding tobacco specifically. One organization has a policy that restricts burning items within organizational housing; although tobacco is not specifically mentioned, this organization was treated as having a policy.

Fraternities made up a majority of the sample, accounting for 71.4% of the respondents. The amount of chapters of each Greek letter organization was assessed using the median because of outliers. Fifty percent of the organizations had between 27.5 and 135.5 individual chapters with a median of 99. This is not an accurate measure of how many members each Greek letter organization has since chapter sizes vary widely. For historical designations; one organization reported being historically African American, three historically Asian, two historically Latino, and one historically a literary society. The remaining 14 organizations (66.7%) reported no historical designations. The division of the demographics is illustrated

in Table 2. All representatives of organizations stated they had high familiarity with their organization's policies.

#### *Organizations without a policy*

One organization that reported no policy did not respond to this part of the survey. This non-respondent was not included in the calculations of frequency. Of the organizations that did not have tobacco policies in place, 94.7% (18) had no current plans to restrict tobacco. One organization stated there were plans to restrict tobacco within organization property. Organizations were asked if there were to develop a policy, what items would they include in this hypothetical policy. 57.9% (11) would consider restricting combustible products, 31.6% (6) would consider restricting smokeless tobacco products, and 21.1% (4) would consider restricting electronic cigarettes.

Most respondents (57.9%) felt neutral towards instituting a tobacco policy. 26.3% (5) supported or strongly supported a policy while 15.7% (3) either opposed or strongly opposed. 52.6% (10) reported that their active undergraduate members would oppose or strongly oppose a tobacco policy. Only 15.8% of respondents reported that their undergraduate members would support a tobacco policy.

Overall, most respondents ranked instituting a tobacco-free policy as difficult at the various levels of the organization. As the levels progressed from national to divisional to individual chapter levels the perceived difficulty is seen to increase. Respondents marked their perceived difficulty on a scale of one to seven with one being very easy and seven being very difficult. Rankings between 6 to 7 were

considered difficult and rankings between 1-2 were considered easy. A ranking of 3-5 was considered medium difficulty and is used as a divider between the two groups. At the national level 52.6% of respondents (10) believed that it would be difficult. 21.1% ranked the difficult to be easy. At the divisional level, 57.9% of respondents (11) thought creating a policy would be difficult. The number of respondents who believed this level to be easy to start a policy remained the same (21.1%). The individual chapter level was seen as the most difficult level to begin tobacco restriction policies. A majority believed this level to be difficult (79.0%). The respondents who believed this level to be easy decreased to three (15.8%). The shift in perceived difficulty at the individual chapter level suggests the national leadership does not believe there to be support of tobacco-restrictions by undergraduate members. Figure 2 displays a bar chart of the perceived difficulty level at each of the organizational levels.

The biggest barrier to adopting a policy was the lack of an enforcement capacity (78.9%). Other problems considered are tobacco policies are not a priority of the organization (73.7%), not a responsibility of the organization (68.4%), noncompliance from active members (68.4%), and no support from alumni (63.2%). Noncompliance from the organization at the national level was not seen as a significant barrier by the organizations (15.8%). The largest benefit of having a tobacco policy was believed to be increased member health (68.4%) with being seen as a leader among similar organization as the second largest (31.6%). Barriers and benefits are displayed in Table 3.

In a ranking of various factors of importance to the Greek letter organization, creating better men and women was ranked as the highest value, with 83.3% of organizations ranked this first. Academic success was ranked number one by 22.2% of respondents but was included in all respondents' top three categories.

Networking, lifelong friendships, philanthropic pursuits, and member's health were all differing between organizations in regards to their ranks. Seven organization placed member's health within their top three values (38.9%) with only one placing it as number one. The only value that was not ranked as one by any organization was networking. Table 4 provides a summary of what organizations ranked as their organization's top three values.

In the qualitative review of the open-ended responses, regarding what would be required for an organization to institute a policy, reviewers identified two major themes. These main themes were that a tobacco policy infringes upon an individual's rights and that organizations have more important priorities. One of the qualitative responses was excluded due to irrelevance.

#### *Organizations with a policy*

The singular organization with a policy is a sorority with no historical designation. This organization only restricts combustible products. The policy of this organization does not specifically target tobacco but rather open flames within chapter housing. The policy was adopted after a small chapter house fire. It is meant to prevent this from occurring in the future. There was no method of enforcement listed for this policy.

The reported challenge of instituting this policy was resistance from active members. An issue with the policy was a shift from real candles to electronic candles for chapter events. Overall the policy was reported as being easy to institute at the national, divisional, and individual chapter levels. The three most important pursuits of the organization were lifelong friendship, philanthropy, and creating better women, respectively.

The organization provided the researchers with the written policy. The policy contained no mention of tobacco. Tobacco is covered in this policy under “burning items” but is not stated specifically as being restricted. The main items that are stated as being prohibited within organizationally owned housing is candles or incense.

## **Discussion:**

This study found the national chapters of social fraternities and sororities did not have policies that promote the restriction of tobacco use. The organization that stated they did have a tobacco policy had it to decrease the risk of fire in housing. From an organization’s point of view, this reduces liability and increases housing safety for members. Therefore restriction of tobacco may occur in organizational housing but under general bans on open flames or burning items. This could have led to underreporting of policies, if organizations did not consider open-flame policies to be tobacco restrictions. Overall a low level of knowledge regarding research concerning tobacco use and fraternities/sororities by respondents was

observed. One of the items of the open-ended answers was the organization would need documentation regarding the benefits of smoking cessation and the impact tobacco has on members. If tobacco policies were to be encouraged in these organizations, education, regarding both health and non-health benefits, would be the primary target at the national level. Also emphasizing the importance of their members' well-being and having organizations be more accountable for their members' health. Another avenue to pursue would be encouraging active undergraduate members to push for tobacco policies. Organizations did not believe that there was undergraduate support. This is seen in perceptions of undergraduate support and is suggested in the difficulty rankings outlined in Figure 2. A future project should assess what the perceptions of undergraduate members are regarding tobacco policies. If the study showed active member support, it might encourage organizational leaders to form tobacco policies. This is likely to be more difficult to assess, since it requires each chapter's overall perceptions, but it may encourage fraternities and sororities to change their national policies. The best way to survey these groups would be if each organization distributed a survey designed to assess the opinions of their members. Organizations are more likely to care about what their members believe than what Greek life members as a whole believe.

At the time of this study there were no other cross sectional assessments of tobacco policies and perceptions at the national level of Greek letter organizations. Tobacco policies have been shown to be effective at controlling usage rates among college students, at least on the university level <sup>4, 14, 21</sup>. This study provides valuable information on another potential method of tobacco prevention in college students.

These organizations could potentially have a large impact on tobacco use rates.

While university policies are restricted to individual universities, the fraternities and sororities within this study have chapters at universities across the US. At universities with existing campus-wide policies, Greek Life tobacco policies would reinforce the social influences. Universities without policies could also benefit from Greek Life tobacco policies. The keys to creating a successful tobacco policy for fraternities and sororities would entail education regarding the importance among leaders at the national level, alumni support of policies, and creating an effectual method of enforcement of the policy. Currently the main priority should be educating national level leaders on the health impact of tobacco on members and benefits regarding cessation of use. By targeting national organizations, a larger effect can be had on members.

Organizations have policies that restrict the use of alcohol at organizational events. These exist due to state laws and to decrease health risks among members. In a study from 1999, alcohol policies were found to have an opposite effect<sup>22</sup>. Instead of decreasing the rate of alcohol consumption, it actually increased after the policy. The authors attributed this to the policy only trying to manage liability, not risk. It is important to consider that a tobacco policy may have the same effect. Up to date research needs to be done on the effectiveness of alcohol policies among fraternity and sorority members. The health risks associated with alcohol and fraternities or sororities are more immediate, which may indicate why these organizations have no policies to decrease tobacco use. The importance of long-term consequences of tobacco on members needs to be emphasized to the national



level of fraternities and sororities. University, local, or state policies may also motivate these organizations to create their own policies. The themes from the open ended also included that it is not right for the organization to restrict something that is legal to own and use. This presents an interesting contrast when compared to alcohol policies. Some organizations restrict whether members can have certain alcohol related items (e.g. keg) but these items are legal. The primary motivation for the alcohol policies is the safety and health of members. It is important to study what makes restricting tobacco different according to organizational leadership.

The current difficulty is convincing fraternities and sororities that it is one of their responsibilities and priorities to deal with tobacco usage amongst its members. Organizations believe that there are more important issues; yet smoking is (one of) the largest preventable causes of illness and death. If college students are unable to quit after college, they are at increased risk of morbidity and mortality. If fraternities and sororities shift their views in priorities, tobacco control could happen on the student organization level of universities.

Previous studies on fraternities and sororities have done little separation between fraternities and sororities<sup>23</sup>. An advantage of this study is it separated fraternities and sororities into separate categories to be able to analyze any differences. Due to the low sample size no comparisons were made. It is important that future studies repeat this style. Different strategies may be needed for reductions in tobacco use in fraternities versus sororities. This is also the first study to look at the national level of the organizations. Individual chapter are variable in

attitudes between campuses, but the national organization leadership provides a rule structure for the overall the organization. It is a more effective route to decrease tobacco use than targeting individual chapters at each university.

Although the response rate to this survey was low, the researchers took measures to have the highest possible response rates. Three waves of emails were sent to all respondents to encourage participation. Each time the emails were sent on a different business day during regular hours, to encourage participation. The emails also outlined the importance of this study. Electronic surveys have response rates from 20-47% <sup>24</sup>. A measure that was not used by the researchers, which may have increased the response rates, would be using incentives for participants. While the response rate to this survey was lower than expected it is justifiable. In regards to the proportion of fraternities and sororities in the study, there were no differences detected by a Chi squared test at either the eligible sample ( $p=0.263$ ) or the sample that had available contact information ( $p=0.169$ ). Organizations may have chosen not to respond due to possible criticisms or bad publicity. In addition respondents have many responsibilities regarding the operations of their organizations. High-ranking members of the organizations (i.e. Executive Director, President, etc.) were the preferred contacts, so it is possible that the emails were lost or forgotten. If overarching organizations like NIC aided in distribution, it is expected that the response rate would increase largely. This was attempted but no umbrella organizations agreed to aid in distribution.

The response rate was moderately low in this study, limiting the ability to generalize our results to all Greek letter organizations nationally. Researchers

attempted to increase the response rate by asking the umbrella organizations to help in the distribution of the survey, but none agreed. In addition no difference between those organizations that do have policies and those that do not, can be observed due to only one respondent organization stating that they have a policy. While all these organizations had social designations, it does not mean that they do not have a large emphasis on service or academics. Multicultural Greek letter organizations often place a large emphasis on scholastic or service achievements. This is not likely to have biased the data since most organizations did not report having a policy and no differences were assessed between designations.

Participants may also have misinterpreted the question assessing whether an organization has a tobacco policy. If a policy does not restrict tobacco but rather burning items, the respondents may have reported that the organization did not have a policy. Since policies could not be taken from organizational websites, there was no way to check that the reported information was accurate. To eliminate this in follow-up research, pilot testing and telephone interviews should be used. Telephone interviews would be especially beneficial since certain parts of questions could be emphasized to help participants better understand the questions being asked. Future studies might evaluate the individual chapter level to explicitly measure the presence of tobacco policies and evaluate local chapter perceptions regarding these policies. Additionally, our study did not capture information regarding the cost-effectiveness of tobacco control policies, which, if demonstrated as shown with other types of policies, might be useful information for local, divisional or national chapters. Costs associated with tobacco, that are relevant to

Greek letter organizations are property insurance premiums and, indoor and outdoor cleaning costs. The presence of policies would reduce the risk of fire, lowering insurance premiums. In addition, costs associated with cleaning would be reduced among chapter housing. In regards to indoor policies, less effort would be needed to remove tobacco residue from walls and carpet. Outdoor policies would decrease the amount of cigarette butts left on fraternity/sorority property. Besides making the house's yard easier to clean, it makes the house more appealing for member recruitment. These benefits could be an effective motivator for adoption of tobacco specific policies.

### **Conclusions:**

Results indicate the need for educating fraternity and sorority leaders, at the national level, regarding the effects of tobacco on members, and the positive influences tobacco control policies could have on the health of members. Organizations perceived that it would be difficult to institute these policies, especially among all the chapters at different universities. Barriers, like lack of enforcement capacity and not being a responsibility/priority of the organization, were motivators for seeing a policy not being created. These barriers also detracted from the benefits of a policy. Besides an increase in member health, no major benefits were identified by the organizations.

Looking to the future, assessments of individual members' perceptions and potential cost savings of tobacco policies are needed. Studies on these topics will provide information that may encourage revision to national policies of fraternities

and sororities. Education on the impacts of tobacco among Greek life members is also important, especially at the national level. This would encourage dissemination of information. With the difficulty of assessing each individual organization's undergraduate support of tobacco-restrictions, this is an unlikely option in advocating for a policy. A more feasible approach would be to focus on education regarding safety and financial benefits of indoor tobacco policies.

#### **Declaration of Interest:**

Paul Zivich is a member of Delta Tau Delta fraternity, which is an organization that meets the criteria to be included in this study. The authors report no other conflict of interest.

#### **Acknowledgements:**

We thank all Greek letter organizations that participated in this study. Special thanks goes to Connor Taylor and Hailey Figas for helping with the analysis of the open-ended responses.

#### **Tables:**

*Table 1: Umbrella organizations*

Umbrella Organization	Number of Greek letter organizations within <i>n</i> (%)
North-American Interfraternity Council (NIC)	74 (48.4%)
National Panhellenic Council (NPC)	26 (17.0%)
National Pan-Hellenic Council (NPHC)	9 (5.88%)

National Association of Latino Fraternal Organizations (NALFO)	20 (13.1%)
National APIA Panhellenic Association (NAPA)	12 (7.84%)
National Multicultural Greek Council (NMGC)	12 (7.84%)

*Table 2: Demographic characteristics of study sample organizations (n=21)*

Demographics		Frequency (%)
Fraternity		15 (71.4%)
Historical Designation	African American	1 (4.76%)
	Asian	3 (14.2%)
	Latino	2 (9.52%)
	Literary Society	1 (4.76%)
	No designation	14 (66.7%)
No tobacco policy		20 (95.2%)

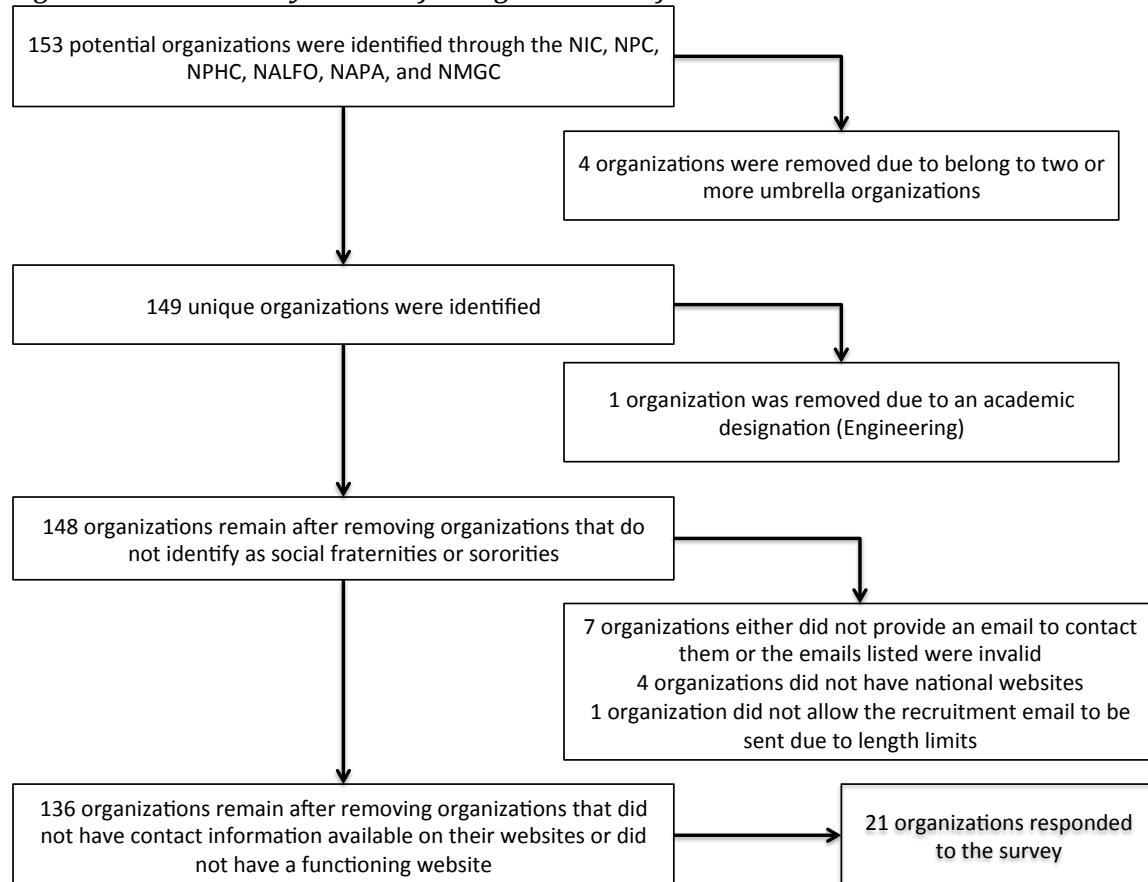
*Table 3: Perceived barriers and benefits to a tobacco policy for organizations without a tobacco policy*

		Frequency (%)
Barriers:	Lack of enforcement capacity	15 (78.9%)
	No support from alumni	12 (63.2%)
	Not a priority	14 (73.7%)
	Not a responsibility of organization	13 (68.4%)
	Noncompliance from active members	13 (68.4%)
	Noncompliance from nationals	3 (15.8%)
Benefits:	Increased member health	13 (68.4%)
	Member support of policy	3 (15.8%)
	Seen as a leader among similar organizations	6 (31.6%)

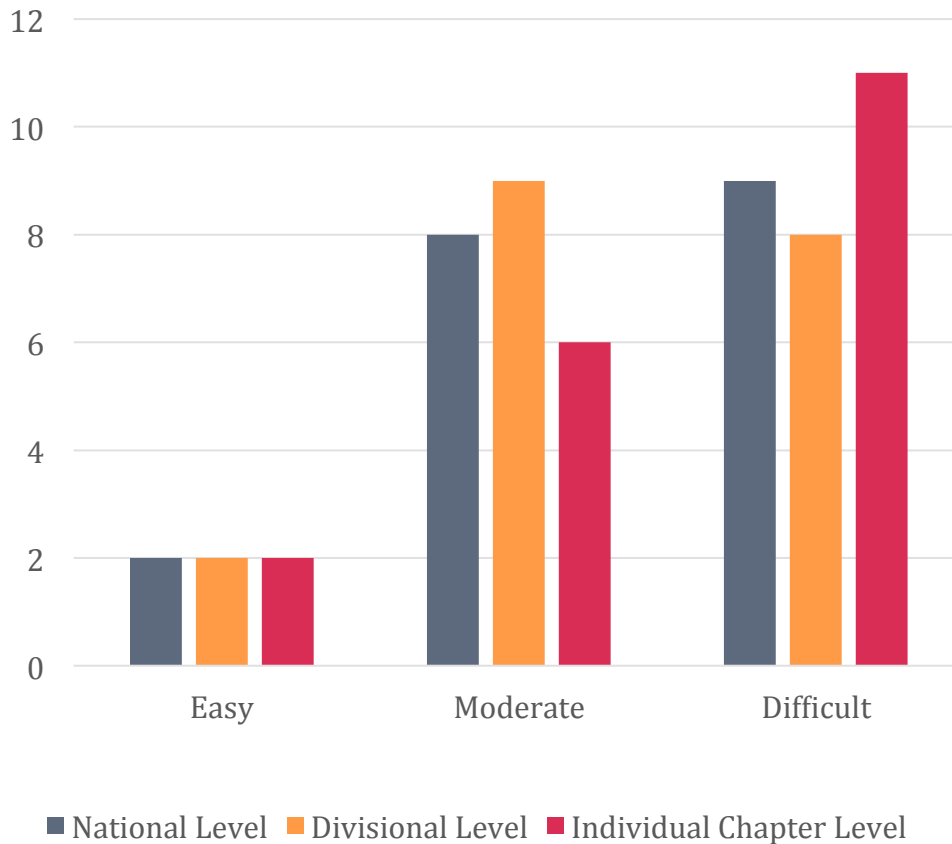
N=19 (excludes the organization with a policy and organization that did not respond fully)

*Table 4: Top ranked values of organizations without a tobacco policy*

Value placed in the top three of importance to the organization	Respondents (%)
Academic success	16 (84.2%)
Creating better men and women	17 (89.5%)
Lifelong friendships	11 (57.9%)
Member's health	7 (36.8%)
Networking	3 (15.8%)

**Figures:***Figure 1: Exclusionary criteria for organizations flowchart*

*Figure 2: Perceptions of difficulty of instituting a tobacco policy at various organizational levels*



**Sources:**

1. 2014 Surgeon General's Report: The Health Consequences of Smoking – 50 Years of Progress. Center for Disease Control and Prevention website. [http://www.cdc.gov/tobacco/data\\_statistics/sgr/50th-anniversary/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm). Updated: January 26, 2015. Accessed: February 26, 2015.
2. Overview list – How Many Smokefree Laws? American Nonsmokers' Rights Foundation website. <http://www.no-smoke.org/pdf/mediaordlist.pdf>. Updated: January 1, 2015. Accessed: February 26, 2015.
3. Colleges and Universities. American Nonsmokers' Rights Foundation website. <http://no-smoke.org/goingsmokefree.php?id=447>. Updated: January 1, 2015. Accessed: Feb. 13, 2015.
4. Fallin A, Roditis M, Glantz SA. Association of Campus Tobacco Policies With Secondhand Smoke Exposure, Intention to Smoke on Campus, and Attitudes About Outdoor Smoking Restrictions. *Am J Public Health*. 2014;;e1-e3. doi: 10.2105/AJPH.2014.302251.



5. National College Health Assessment: Spring 2014. American College Health Association website. [http://www.acha-ncha.org/docs/NCHA-II\\_WEB-PAPER\\_SPRING2014\\_UNDERGRAD\\_REFERENCEGROUP\\_EXECUTIVESUMMARY.pdf](http://www.acha-ncha.org/docs/NCHA-II_WEB-PAPER_SPRING2014_UNDERGRAD_REFERENCEGROUP_EXECUTIVESUMMARY.pdf). Updated: Spring 2014. Accessed: February 26, 2015.
6. Kenford SL, Wetter DW, Welsch SK, Smith SS, Fiore MC, Baker TB. Progression of college-age cigarette smokers: what influences outcome. *Addict Behav.* 2005;30(2):285-94. doi:10.1016/j.addbeh.2004.05.017
7. Sutfin EL, McCoy TP, Berg CJ, et al. Tobacco use by college students: a comparison of daily and nondaily smokers. *Am J Health Behav.* 2012;36(2):218-29. doi: 10.5993/AJHB.36.2.7.
8. Waters K, Harris K, Hall S, Nazir N, Waigandt A. Characteristics of social smoking among college students. *J Am Coll Health.* 2006;55(3):133-9. doi: 10.3200/JACH.55.3.133-139.
9. Thompson B, Coronado G, Chen L, et al. Prevalence and characteristics of smokers at 30 Pacific Northwest colleges and universities. *Nicotine Tob Res.* 2007;9(3):429-38. doi: 10.1080/14622200701188844
10. McCabe SE, Schulenberg JE, Johnston LD, O'malley PM, Bachman JG, Kloska DD. Selection and socialization effects of fraternities and sororities on US college student substance use: a multi-cohort national longitudinal study. *Addiction.* 2005;100(4):512-24. doi: 10.1111/j.1360-0443.2005.01038.x
11. Costa FM, Jessor R, Turbin MS. College student involvement in cigarette smoking: the role of psychosocial and behavioral protection and risk. *Nicotine Tob Res.* 2007;9(2):213-24. doi: 10.1080/14622200601078558
12. Fraternity and Sorority Facts. New Jersey Institute of Technology website. <http://www.njit.edu/greeklife/directory/facts.php>. Accessed: February 26, 2015.
13. Hahn EJ, Rayens MK, Ridner SL, Butler KM, Zhang M, Staten RR. Smoke-free laws and smoking and drinking among college students. *J Community Health.* 2010;35(5):503-11. doi: 10.1007/s10900-010-9220-2.
14. Seo DC, Macy JT, Torabi MR, Middlestadt SE. The effect of a smoke-free campus policy on college students' smoking behaviors and attitudes. *Prev Med.* 2011;53(4-5):347-52. doi: 10.1016/j.ypmed.2011.07.015.
15. Big Tobacco on Campus: Ending the Addiction. American Lung Association website. <http://www.lung.org/assets/documents/publications/tobacco-policy-trend-alerts/big-tobacco-on-campus.pdf>. Updated August 2008. Accessed: February 26, 2015.
16. Williams SC, Hafner JM, Morton DJ, et al. The adoption of smoke-free hospital campuses in the United States. *Tob Control.* 2009;18(6):451-8. doi: 10.1136/tc.2009.030494.
17. Kauffman RM. Smoking and Tobacco in Ohio Prisons. *Ohio Link.* 2009;
18. Wynne, KL (2007) *South Carolina Hospital Tobacco Survey*. Retrieved from <http://www.scdhec.gov/Health/docs/SCHospSurvey-Electronic.DOC>
19. Martinez C. Barriers and challenges of implementing tobacco control policies in hospitals: applying the institutional analysis and development framework to the Catalan Network of Smoke-Free Hospitals. *Policy Polit Nurs Pract.* 2009;10(3):224-32. doi: 10.1177/1527154409346736.

20. Braun, Virginia; Victoria Clarke (2006). "Using thematic analysis in psychology". *Qualitative Research in Psychology* 3 (2): 93. doi:10.1191/1478088706qp063oa.
21. Everett SA, Husten CG, Kann L, Warren CW, Sharp D, Crossett L. Smoking initiation and smoking patterns among US college students. *J Am Coll Health*. 1999;48(2):55-60. doi: 10.1080/07448489909595674
22. Liability management or risk management? Evaluation of a Greek System alcohol policy. Kilmer, Jason R.; Larimer, Mary E.; Parks, George A.; Dimeff, Linda A.; Marlatt, G. Alan. *Psychology of Addictive Behaviors*, Vol 13(4), Dec 1999, 269-278. <http://dx.doi.org.proxy.lib.ohio-state.edu/10.1037/0893-164X.13.4.269>
23. Cheney MK, Harris LW, Gowin MJ, Huber J. Smoking and membership in a fraternity or sorority: a systematic review of the literature. *J Am Coll Health*. 2014;62(4):264-76. doi: 10.1080/07448481.2014.891595
24. Nulty, DD. The adequacy of response rates to online and paper surveys: what can be done? *Assessment & Evaluation in Higher Education*. 2008;33(3):301-314. doi:10.1080/02602930701293231.

## **Appendix:**

### **NIC member organizations:**

- Acacia, Alpha Chi Rho, Alpha Delta Gamma, Alpha Delta Phi, Alpha Epsilon Pi, Alpha Gamma Rho, Alpha Kappa Lambda, Alpha Phi Alpha, Alpha Phi Delta, Alpha Sigma Phi, Alpha Tau Omega, Beta Chi Theta, Beta Sigma Psi, Beta Theta Pi, Chi Phi, Chi Psi, Delta Chi, Delta Epsilon Psi, Delta Kappa Epsilon, Delta Lambda Phi, Delta Phi, Delta Psi, Delta Sigma Phi, Delta Tau Delta, Delta Upsilon, FarmHouse, Iota Nu Delta, Iota Phi Theta, Kappa Alpha Order, Kappa Alpha Psi, Kappa Alpha Society, Kappa Delta Phi, Kappa Delta Rho, Lambda Chi Alpha, Lambda Phi Epsilon, Lambda Sigma Upsilon, Lambda Theta Phi, Nu Alpha Kappa, Omega Delta Phi, Phi Beta Sigma, Phi Gamma Delta, Phi Iota Alpha, Phi Kappa Psi, Phi Kappa Sigma, Phi Kappa Tau, Phi Kappa Theta, Phi Lambda Chi, Phi Mu Delta, Phi Sigma Kappa, Phi Sigma Pi, Pi Kappa Alpha, Pi Kappa Phi, Pi Lambda Phi, Psi Upsilon, Sigma Alpha Epsilon, Sigma Alpha Mu, Sigma Beta Rho, Sigma Chi, Sigma Lambda Beta, Sigma Nu, Sigma Phi Delta, Sigma Phi Epsilon, Sigma Phi, Sigma Pi, Sigma Tau Gamma, Tau Delta Phi, Tau Epsilon Phi, Tau Kappa Epsilon, Theta Chi, Theta Delta Chi, Theta Xi, Triangle, Zeta Beta Tau, Zeta Psi

### **NPC member organizations:**

- Alpha Chi Omega, Alpha Delta Pi, Alpha Gamma Delta, Alpha Epsilon Phi, Alpha Omicron Pi, Alpha Phi, Alpha Sigma Alpha, Alpha Sigma Tau, Alpha Xi Delta, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Phi Epsilon, Delta Zeta, Gamma Phi Beta, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Phi Mu, Phi Sigma Sigma, Pi Beta Phi, Sigma Delta Tau, Sigma Kappa, Sigma Sigma Sigma, Theta Phi Alpha, Zeta Tau Alpha

### **NPHC member organizations:**

- Alpha Phi Alpha, Alpha Kappa Alpha, Kappa Alpha Psi, Omega Psi Phi, Delta Sigma Theta, Phi Beta Sigma, Zeta Phi Beta, Sigma Gamma Rho, Iota Phi Theta

NALFO member organizations:

- Alpha Pi Sigma, Alpha Psi Lambda, Chi Upsilon Sigma, Gamma Alpha Omega, Gamma Phi Omega, Gamma Zeta Alpha, Kappa Delta Chi, Lambda Alpha Upsilon, Lambda Pi Chi, Lambda Pi Upsilon, Lambda Sigma Upsilon, Lambda Theta Alpha, Lambda Theta Nu, Lambda Theta Phi, Lambda Upsilon Lambda, Omega Phi Beta, Phi Iota Alpha, Sigma Iota Alpha, Sigma Lambda Alpha, Sigma Lambda Upsilon

NAPA member organizations:

- Alpha Kappa Delta Phi, Alpha Phi Gamma, Chi Sigma Tau, Delta Kappa Delta, Delta Phi Lambda, Kappa Phi Lambda, Lambda Phi Epsilon, Pi Alpha Phi, Pi Delta Psi, Sigma Beta Rho, Sigma Psi Zeta, Beta Upsilon Delta

NMGC member organizations:

- Delta Xi Phi, Delta Sigma Chi, Gamma Eta, Lambda Psi Delta, Lambda Sigma Gamma, Lambda Tau Omega, Mu Sigma Upsilon, Theta Nu Xi, Omega Phi Chi, Delphic of Gamma Sigma Tau Fraternity, Phi Sigma Chi, Psi Sigma Phi